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Correspondence, brief articles, photographs, drawings, reviews of books and films, announcements of conferences and publications, and related materials are invited, but we cannot be responsible for unsolicited items or anything submitted without adequate return postage or International Reply Coupon.

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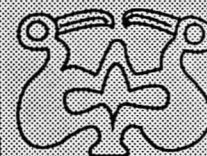
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Rapa Nui Notes

the premier source for current Easter Island events and scientific studies



What's New in Hangaroa

A street market, *feria*, is now held on Policarpo Toro Street on Saturday and Tuesday a.m. Islanders bring fresh fish, *poi*, and locally grown vegetables and fruits to sell.

The remodeling of the church is now completed, and the new anthropological museum has some of their permanent exhibits in place. More exhibits will be added as funds become available.

Down the street from the church a new restaurant/bar has just opened. Called Kopa Kavana, it has become a lively nightspot in the village.

CONAF (National Parks of Chile) has initiated a program for school children aged 10 and older. Small groups study and learn about the conservation of the archaeological features of their island. They wear a special cap and arm band, with hope that they will spread the word about conservation on the island. CONAF is also providing TV and radio announcements on a regular basis that stress conservation, preservation, and anti-litter practices.

The small bay near the *caleta* and Ahu Tautira has a new addition; a snack bar and dressing room has been built along with terraces that lead down to the bay. A shallow sea pool has been constructed so that young children can

play in safety. This very attractive addition enables children and islanders who cannot easily get to Anakena to have access to a safe swimming beach.

Next year Chile will spend close to 500 million pesos on a Plan of Development for Rapa Nui. Among the works that will be undertaken are the paving of the streets of Hanga Roa, improvement of dock facilities at Hanga Roa, and the improvement of the small fishing ports. Also, the number of scholarships for students will be increased to 75 and the number of vocational scholarships will be raised to 100.

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Maria de Rapa Nui

by
Joan T.
Seaver

The evocative statue of the Virgin and Child in the church at Hanga Roa has captivated many visitors to the island, but few know its history. We are grateful to Joan Seaver for the following article on Maria de Rapa Nui.¹

The election of Chilean president Salvador Allende in 1970 was not the only electrifying event to happen that year. At the *caleta* (fishing community) on Rapa Nui, islanders—after over one hundred years of missionization—were carving monumental religious art for the first time since the ancient *moai* of almost a thousand years ago. Instead of prehistoric kin groups, the petitioners this time were three members of the Catholic clergy from Santiago.

Padre Raul Hasbun, articulate leader of the delegation, had his work cut out for him when he and his colleagues landed at Mata-veri on Wednesday, May 16. First, he had to assuage the disappointed Rapa Nui who had come to greet their expected new statue of the Virgin del Carmen, Chile's patron saint. Next, since he had come to determine the source of rumors spreading on the Continent about "restless natives" on Chile's South Pacific island, he was to set the islanders at a task both productive and unifying (and probably distracting?). Instead of receiving a ready-made statue from Chile, he must persuade them to carve their own statue of the Virgi. All of this was to be dealt with before the three sacerdotes left the tarmac!

Whatever Padre Hasbun's words, his plan succeeded. "Approximately twenty" artisans, after heated private discussions, according to one of their members, eventually sat in the front pew of the Church of the Holy Spirit and raised their hands to accept the commission. They were to find and cut an appropriate log, take it to the *caleta* and carve it within the next six days. In the Biblical fashion, on the seventh day (a Sunday), the completed statue would be brought in procession up the road from the *caleta* and installed next to the church altar.

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Coming Attractions

The next issue of *Rapa Nui Notes* will be a memorial issue marking the 10th anniversary of the death of William Mulloy.

Don't miss it! Watch your mailing label and don't forget to renew your subscription! Keep *Rapa Nui Notes* coming without interruption.

Stone Conservation Project

Monica Bahamondez Prieto, is in charge of the island's restoration project under the Dirección de Bibliotecas, Archivos y Museos, Santiago de Chile. Her report, in Spanish, is followed by an English translation.

by
Monica
Bahamondez
Prieto

Para nadie es un secreto que estado de deterioro en que se encuentra gran cantidad de moai de Isla de Pascua es de carácter grave. Por esta razón se elaboró un proyecto de conservación del material lítico de la isla, el que se enmarca dentro del Proyecto CHI/79/013, suscrito entre el PNUD y la Dirección de Bibliotecas, Archivos y Museos. Comienza en el año 80 con traida a la isla del experto polaco Sr. W. Domaslowski, quien propone en primera instancia un método de Conservación de la Piedra. Posteriormente se envió a la Sra. Mónica Bahamondez, Ingeniero Químico, a realizar un curso de especialización en Conservación de Piedra (Venecia 83), con el fin de analizar la factibilidad de aplicar el método propuesto y tomar bajo su cargo la etapa experimental.

La empresa alemana Wacker, fabricante de los productos recomendados prestó la asesoría del Prof. Roth, Químico de dicha empresa, quien supervisó la aplicación de las resinas.

El trabajo es de carácter experimental y consiste básicamente en consolidar la piedra para devolverle su dureza original y posteriormente hidrofobizarle, es decir, impedir la penetración de agua, principal causante del deterioro. Los resultados observados a la fecha son altamente positivos con lo que esperamos retardar al máximo el deterioro de los moais. En el presente año se ha planificado la intervención en 3 esculturas ubicadas en distintas zonas de la isla lo que permitirá una buena evaluación de la etapa experimental.

[It is no secret that the state of deterioration of a great number of moai on Easter Island is very grave. For this reason, a stone conservation project was developed as part of Project CHI/79/013, co-sponsored by the PNUD and the management of Libraries, Archives and Museums. It began in 1980, when the Polish expert, W. Domaslowski, was brought to the island. He first proposed a method of stone conservation. Later, Sra. Bahamondez, a Chemical Engineer, was sent to present a special course in stone conservation for the purpose of analyzing the feasibility of using the proposed method and to take charge of the experimental stage.

The German firm Wacker, maker of the recommended products, provided the consulting services of professor Roth, chemist at the firm, who supervised the application of the resins.

The work is experimental and consists basically of consolidating the stone in order to return it to the original hardness and then prevent the penetration of water, which is the principle cause of deterioration. The observed results to date are very positive and it is hoped that this process will retard the deterioration of the moai. This year three sculptures will be treated in different parts of the island; this will enable us to make an evaluation of the experimental process.]



Report on Recent Archaeology on Rapa Nui

by
Dr. Christopher
Stevenson

As part of a long term research project concerned with the study of prehistoric Easter Island economy and socio-political structure, excavations were conducted at Site 6-356 with the assistance of Earthwatch volunteers under the direction of Dr. Christopher Stevenson and Ms. Felicia Rounds. The excavations entailed the intensive excavation of a single open-air residential site located in the southwestern portion of the island. This undertaking represents the first thorough investigation of a major habitation site ever conducted on Easter Island.

Research objectives for the first field season focused on the identification of site workshop areas and the investigation of specific cultural features. In order to realize these objectives, a complete surface collection of the artifactual material from the surface of the site was taken. The entire site area was divided into 192 five meter square units and all artifacts of obsidian and basalt were collected. A preliminary mapping of the absolute numbers of artifacts indicated that well defined areas of high artifact concentration were present across the site area. These zones of high density appear to represent areas where obsidian was worked into finished tools. Five distinct concentrations were identified.

After the surface collection, the entire site was tested with one meter square excavation units positioned at systematic intervals across the site. An additional sample of the stone tool assemblage was collected and part of a purposefully buried human skull was recovered. Also encountered were five basalt hoes. To our knowledge, this is the first reported discovery of this tool type from the island.

Architectural features at the site consisted of a subterranean *manavai* (garden enclosure), a *hare moa* (stone chicken coop), an *ana kionga* (refuge cave), the remains of a house entrance feature, and a deep cooking midden with *umu* (earth oven) preserved on the surface. Test excavations with the midden deposits indicated that cultural material extended within well defined stratigraphy to a depth of over one meter. Ample charcoal from these deposits was recovered for radiocarbon dating.

The excavation of the *ana kionga* provided a rich faunal data set dating to the post 1680 AD period. A study of the cave interior and surrounding deposits indicated that the cave had been enlarged by prehistoric excavation. After this expansion, a small interior room was walled off with stones and an entrance tunnel was created to restrict access to the cavity. Debris from the enlargement of the cave was dumped outside the cave and was used to conceal the basalt outcrop under which the cave was located and a petroglyph of pecked lines cut into the same outcrop. All indications suggest that the cave was purposely fortified and camouflaged in order to prevent identification by hostile persons.

Twelve test units were placed inside the cave and produced thousands of fish, rat, and chicken bones from the 3-5

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Mission Spéléologique 1986 A L'île de Paques

by
Claude Vignes

The following article describes cave explorations conducted on the island by a team of French speleologists. An English summary follows.

A la suite de voyages effectués sur l'île en 1979 et 1983, nous avons entrepris, un ami spéléologue* et moi de poursuivre les travaux de reconnaissance réalisés sur le champ d'Hiva-hiva situé au nord d'Hanga Roa. Nous voulions également étendre notre prospection à l'intérieur du cratère du Rano Kau car une brève visite effectuée en 1983 sur la zone ouest du volcan avait permis de repérer plusieurs abris sous roche dont l'un était orné de nombreux pétroglyphes.

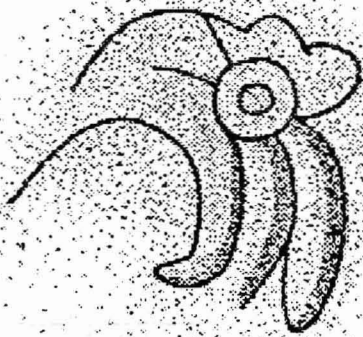
L'objectif de cette mission était la mise à contribution de la spéléologie pour étudier les cavernes de l'île en complétant éventuellement la liste des sites inventoriés et en effectuant la topographie des abris les plus remarquables.

Une partie des travaux réalisés en août 1986 a donc été la reconnaissance du champ d'Hiva-hiva où nous avons visités une vingtaine de cavités. Dans ces réseaux souterrains denses, nous avons relevés d'importantes traces d'occupation humaine: atelier de taille d'obsidienne, outils, restes de coquillages, poissons, oursins, squelettes humains dont un crâne gravé d'une *Komari*; toutes ces observations ont été notées sur un plan de situation. La prospection d'abris sous roche situés sur le flanc intérieur ouest de Rano Kau nous a permis d'effectuer la topographie d'une cavité

particulière dont l'entrée ornée d'une quinzaine de pétroglyphes, certains étaient dissimulés sous l'herbe. Au fond du cette cavité et dans des abris proches, nous avons trouvé des coquilles de noix ressemblant à celles du *Jubaea Chilensis*.

Les principaux résultats de cette mission nous ont permis de constater que plusieurs abris sous roche situés dans la partie supérieure de la caldera du Rano Kau ont servi d'habitat, l'une de ces cavités présentant de très beaux pétroglyphes. On peut penser également que de grands palmiers poussaient sur toute la surface de Rapa Nui: des coquilles de noix ayant été retrouvées aux deux extrémités de l'île: Poike et Rano Kau.

Dans quelques mois, nous espérons revenir avec un ami archéologue—préhistorien qui pourrait effectuer la fouille



de cet abri particulier du Rano Kau pendant que nous poursuivrons notre prospection spéléologique. Une mission regroupant des archéologues et spéléologues permettrait de réaliser des travaux complémentaires qui se révéleraient probablement fructueux.

*Daniel Chailloux

[During trips to the island in 1979 and 1983, Claude Vignes and Daniel Chailloux made a reconnaissance of the area north of

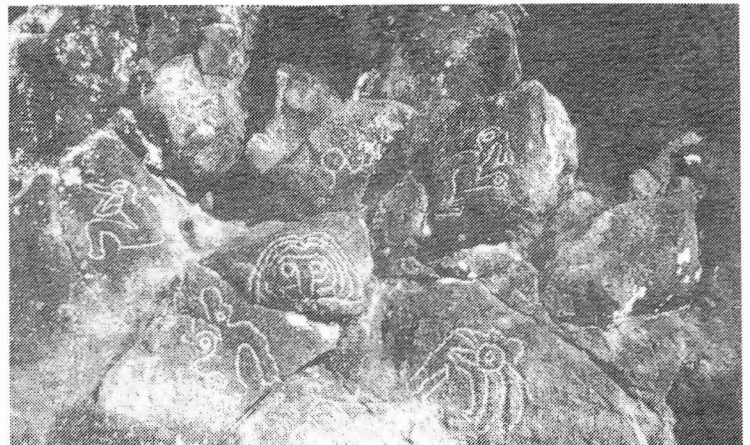
Hanga Roa. They also extended their search to the interior of the crater of Rano Kau where they found several openings in the rocks; one of these contained numerous petroglyphs. The object of their work was to make a contribution to the knowledge of caves on the island by making an inventory of the sites and mapping the more important ones.

In 1983, they visited 20 caves north of Hanga Roa and in this dense underground network they found important traces of human occupation; these include obsidian workshops, tools, remains of shells, fish, sea urchin, and a human skeleton—the skull engraved with a vulva sign. All these were noted on a site plan. A cave on the interior of Rano Kau was recorded, particularly the 15 petroglyphs located at the entry. At the back of this cave they found shells of nuts that resemble those of *Jubaea Chilensis*, the great palms that formerly grew on the island. Shells of these palm nuts have been found at two extremities of the island: Poike and Rano Kau.

They hope to return to the island with a prehistoric archaeologist who could make a thorough search of the cave at Rano Kau while they pursue their speleological survey. A project combining archaeology and speleology could be both complementary and fruitful.]

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The Ancient Solar Observatories of Rapa Nui

by William Liller

...Easter Island, the loneliest inhabited place in the world. The nearest solid land the islanders can see is above, in the firmament, the moon and the planets. They have to travel farther than any other people to see that there is really land yet closer. Therefore, living nearest the stars they know more names of stars than of towns and countries in our own world.

—Thor Heyerdahl

INTRODUCTION

For what reasons would the people of a prehistoric civilization want to take note of precisely where the sun rose in the morning and set at night? Why would Rapanui astronomer-priests establish special locations for watching the stars and to teach apprentice sky-watchers the constellations and the strange behavior of the moon and planets? Because the celestial bodies were as important to these stone-age people as were the wind and the rain, the sea and the land. They prostrated themselves before the rising sun—Roggeveen's men noted that in 1722—planted their crops according to the phase of the moon (as some of us still do today), and feared for their well-being when Mars grew bright. The sky was both pagan church and their daily calendar; they began their year shortly after the Pleiades first appeared in the morning sky, or when the sun rose farthest to the north. Surely they must have constructed monuments to mark these crucial directions. Where are they?

Because of the way in which the earth's spin axis is tilted, the point on the horizon where the sun rises swings back and forth annually like a great pendulum. A thousand years ago on the date of the winter solstice, now counted as June 21, the sun first appeared at dawn from Easter Island about 27 degrees to the left (north) of the east point of the horizon. On each successive morning, sunrise took place slightly farther to the right, occurring at the east point on the date of the equinox date around September 21. On December 21 or 22, the sun rose farthest to the right, again 27 degrees from the east point, again at the solstice. Thereafter, the point of sunrise swung back towards the left, again appearing due east near March 21, reaching the farthest left point on the June solstice.

Methodically noting the location of sunrise was one of the simplest and certainly most accurate way for primitive man to keep track of the seasons. To the early Easter Islanders, descendants of great navigators but now confined to the most remote spot on Earth, it would have been important to know when the seasons changed. Unlike most of the other Polynesian islands, Easter Island is subtropical, meaning that the climate changes appreciably during the year. Crops had to be planted during certain times of the year, and birds, fish, and turtles all followed seasonal patterns of appearance.

ARCHAEOASTRONOMY: 1955-1972

The members of the 1955-56 Norwegian Archaeological Expedition to Easter Island were perhaps the first investigators to be actively on the lookout for structures that were astronomically oriented and for stone age devices that might have served as pointers to those special rising points at the times of the solstices and the equinoxes. Three possibilities were found: a set of four man-made cavities—cupules—on a rock outcrop at Orongo; and two *ahu*

complexes, the imposing one at Tepeu, several kilometers north of the village of Hanga Roa, and the even more imposing one at Vinapu, close to the east end of the newly extended airport runway.

Edwin Ferdon deduced that pairs of the four cupules were aligned closely with the directions to the solstitial and equinoctial sunrise points, and he dubbed this set of cupules "sun stones." Carlyle Smith studied a number of important *ahu*, but he found that the two central platforms at Tepeu had a special property: they were oriented such that the eight *moai* that once were erected there, four on each platform, faced directly at the rising sun on the first day of the Rapa Nui summer, December 21. And finally, William Mulloy, who made a detailed survey of two *ahu* at Vinapu, discovered that a perpendicular to the facade of Vinapu 1 pointed in the direction of summer solstice sunrise, and a similar perpendicular for Vinapu 2 was aligned with the equinoctial sunrise point.

Mulloy returned to the island a number of times afterwards, and he found other solar-oriented *ahu*. One was A Kivi, well-known to many tourists for the seven *moai* that Mulloy himself re-erected with his Chilean collaborator Gonzalo Figueroa. In addition they discovered another *ahu*, with one *moai*, located about 800 yards away and close to due west of A Kivi. Mulloy and Figueroa suggested that these alignments were intentional and had been made to mark the two times of the year when the sun was at an equinox.

But several important questions remained to be answered: first of all, many of the orientation measurements had been made with magnetic compass. According to the Chilean Armada map, large magnetic anomalies are found in some areas of the island. Were these measurements reliable? And if so, were these orientations just accidental, or had the early Rapa Nui natives intentionally planned that at least some of these structures be astronomically oriented?

Now intrigued by the possibility that other astronomically oriented *ahu* might be found, Mulloy and two assistants spent over two months in 1965 systematically moving around the island coast measuring with optical surveying instruments the directions of the perpendiculars to the platform facades. The result must have been disappointing to him: of the 272 *ahu* that he investigated, only about 45 had orientations within a few degrees of the looked-for directions, close to the number that one would expect given a set of totally randomly oriented *ahu*. Most of the structures, located near the coast, have been built with seaward facades closely parallel to the adjacent shore line. Mulloy never published the measurements.*

ARCHAEOASTRONOMY: 1972-PRESENT

More findings have been reported recently, some positive, some negative. The UCLA archaeologist Georgia Lee teamed up with retired Harvard astronomer William Liller, and with optical surveying instruments, they carefully checked the pointing directions indicated by the "sun stones" and found them far from the directions derived by Ferdon—as much as 16 degrees. Their conclusion: the cupules must have served some other purpose.

If the line connecting Ahu A Kivi with its neighboring *ahu* was oriented with astronomical intent, it was poorly laid out; Liller found it to be misaligned with the east-west direction by nearly six degrees, an amount large enough to raise suspicions about an equinox-pointing interpretation. A perpendicular to the facade of

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Ahu A Kivi itself is somewhat closer; it points 3.2 degrees to the left of due west. But as Mulloy noted, the *moai* of A Kivi are unusual in that they face the ocean, albeit some two kilometers away. If their creators had intended them to look at something, it could well have been the setting sun, but they did so approximately a week after spring equinox.

Mulloy's and Liller's later measurements confirmed that the *ahu* at Vinapu and Tepeu are solstitially and equinoctially aligned. But at the same time, these monuments, like most coastal *ahu*, are also aligned with their long axes closely parallel to the adjacent shore. Thus, without further supporting evidence, it is difficult to argue that their main purpose was astronomical.

There is, however, one modest monument, an inland *ahu* with a single *moai* and other remains nearby, that now must be classified as a well-substantiated observatory site. It's name: Huri A Urenga; its location: between Puna Pau and Maunga Orito. Restored by Mulloy and Sergio Rapu in 1972, the *moai* and the platform on which it was mounted were twisted, Mulloy noted, at about a 20° angle to the plaza in front of it, an unusual (Mulloy thought unique) design feature for an *ahu*. Mulloy suggested a possible explanation for this strange design: the builders wanted the *moai* to face the direction of the rising winter solstice sun. According to his compass readings, a perpendicular to this platform pointed to within a degree of the correct direction.

Liller and a Chilean colleague Julio Duarte returned to Huri A Urenga armed with a theodolite and fully confirmed Mulloy's suspicions. Furthermore, they noted that precisely in the same solstitial direction, there was a sharply peaked hill called Maunga Mataengo. From the *ahu* its summit, marked by a small cave, would have served like the foresight of a rifle indicating the exact place where the sun would have risen on June 21. And they also found that towards the west, within a fraction of a degree of the setting point of the equinoctial sun, was located the summit of another hill, Maunga Tararaina, now largely removed to provide building materials for the recent airport extension.

Other evidences emerged from the investigations made by Liller and Duarte: Within a few tenths of a degree of due east of Huri A Urenga lay another *ahu*, Ko Te Pei, and in the opposite directions was yet another, Moa Te Erueru, this one within one and a half degrees of the due west direction. The supposition must be that these *ahu* had been intentionally placed so as to provide sight lines to the rising and setting equinoctial sun.

A further discovery by Mulloy at Huri A Urenga solidified the conclusion that this *ahu* was a sophisticated stone-age observatory. Close to the *ahu* plaza he uncovered a set of five man-made cupules pecked into bedrock. Once again Mulloy took compass readings and Liller and Duarte made the surveying refinement: four different pairs of cupules pointed with high precision—three to better than a degree—to the three significant solar rising points plus due north. The line connecting a fifth pair of cupules paralleled the wall of the *ahu* plaza to within a fraction of a degree.

Are there other *ahu* on the island that were used as solar observing stations? Perhaps, but if so, more study will be necessary before we can say for sure. As of this writing, some of the best candidates are the following: *Hekii*, *Vinapu*, and *Tongariki*, Englert called these three *ahu* the most outstanding on the island. All three are either solstitially or equinoctially aligned. Like Vinapu, *Hekii* has two platforms, and the smaller one, called *Hekii 2* by Smith, is twisted 13° to the underlying structure in a manner very similar to that found at Ahu Huri A Urenga. A perpendicular to its seaward facade points 1 1/4° to the left of due east. Its four *moai*, now toppled, must have stared in this same direction: towards the rising equinoctial sun. Similarly, a perpendicular to the facade of the larger platform, *Hekii 1*, is oriented within 3° of the rising sun at the winter solstice.

The orientation of the once-magnificent but almost totally destroyed Ahu Tongariki with perhaps as many as 20 *moai* can now only be measured approximately, but two independent determinations give the same answer: a perpendicular to its seawall points 3 degrees to the right of the rising sun at summer solstice.

The probability of having by chance ALL five platforms associated with the three greatest *ahu* on the island solstitially or equinoctially aligned (within 3°) is so small that we have to give serious consideration to the possibility that they all were designed to be used as solar observatories.

Ra'ai and *Rua Tau Ra'a* have names that include the word *ra'a*, the Rapanui word for "sun." (*Ra'ai* could well be a spelling variant, according to the linguist Cynthia Rapu.) From Ahu *Ra'ai* the summer solstice sun rises precisely over the crater in Poike's imposing peak (where the evil god Katiki was supposed to have lived), and sets directly behind the summit of Maunga Pui. *Rua Tau Ra'a* ("The Place of the Beautiful Sun") has long axis aligned within 2° of the east-west directions; 600 meters to the east is a small island called *Motu Tuhi Tuhi Ra'a Mea*, meaning "Isle Pointing to the Red Sun."

Moroki. Located almost at the exact center of the island, this solstitially aligned *ahu* was well situated for solar observations. According to Englert, its name means "Built of stones carefully cut, polished and fitted, like at Vinapu." Well buried beneath topsoil, this *ahu* merits further study.

While there are reasons to believe that all these *ahu* (and others) served as solar observatories, more evidence is needed before we can say so with confidence.

What about observatories for the noon, stars and planets? So far no clear indications point to their existence. However Dr. Georgia Lee has catalogued numerous examples of astronomical rock art—figures of comets, lunar crescents, stars and constellation patterns—which show that the early islanders took a keen interest in the celestial world above them. Very likely observatories existed for these carefully watched objects. We have yet to find them.

In summary, Ahu Huri A Urenga now joins other well-known prehistoric observatories like Stonehenge in England, El Caracol in the Mexican Yucatan, and the Temple of the Sun in Incan Peru, as a monument to the intelligence of stone-age man. Other observatories almost certainly exist on Easter Island; it may be that the great *ahu* at Tongariki, *Hekii* and Vinapu are among them.



*The field notes of Dr. William Mulloy (1917-1978) were made available last year to Drs. Lee and Liller through the kindness of the Mulloy family. They have been edited and corrected, and it is hoped that they will soon be published (Mulloy, Liller and Lee authors)

William Liller
Casilla 437
Viña del Mar, Chile



Fonck Easter Island Collection

by
José Miguel
Ramirez

The Fonck Society Museum is a small but important institution located in the tourist capital of Chile, Viña del Mar, two hours from Santiago.

Founded in 1937, it has played an important role in the archaeological investigations of the central coast of Chile.

Thanks to many collectors, the most important section of the Museum has come from Easter Island beginning 50 years ago. Fritz Felbermayer, who founded "The Society of Friends of Easter Island," was the principle donor; he contributed 589 archaeological and ethnological objects including some of the most important and unique pieces.

The most unique article in the entire collection is a large tapa robe (*nua mahute*) 180 x 140 cm, dyed a yellowish color with 15 *manutara* (terns) and one *tangata manu* (birdman). It most probably belong to the last chief of the island. The cloak is formed of two or three layers of *mahute* (paper mulberry) sheets sewn together with fine vegetal cords, each measuring 4 cm wide, like back stitching.

In 1951 the Fonck Society brought to Viña del Mar a three meter tall *moai* from Ahu One Mahiki on the south coast of Rapa Nui.

Today the Easter Island collection includes more than 1400 pieces from every period of the island's history.

Among the more exceptional pieces: a large polished adze (*toki*) 37.5 cm across, and weighing 4.8 kg; a beautiful old *reimiro*, 80 cm (another interesting *reimiro* carved with six *tangata manu* in bas relief, was stolen from a private exhibition hall following the 1985 earthquake which destroyed the old museum); a 152 cm dance paddle (*ao*); a 118 cm decorated club (*ua*); 8 exquisite wooden *moai tangata* (male figures); one old *moai pa'apa'a* (literally, sterile female figure); and one *moai vie* (pregnant female figure).

Also there are tattooing combs (*uhi*); 8 incised stone pillows (*ngarua*); 2 knives (*hoe*); 2 axes (*ohio*); 91 adzes (*toki*) and chisels (*kautoki*); one large obsidian *toki*; 540 obsidian spear points (*mata'a*); 4 knife handles, drills and other artifacts; 3 one-piece stone fishhooks (*mangai ivi*), 5 pieces in the process of manufacture; one stone point of a composite fishhook; one composite bone fishhook (*mangai veri veri*); 15

one-piece bone fishhooks (*mangai ivi*); and many other bone artifacts. We have one stone anchor (*aka*); 5 grooved sinkers; 16 bone needles; one whetstone with parallel grooves in one side; one slab fragment (*paenga*) with 2 bi-conical holes in the top; and one rubbing stone.

Additional pieces include various good luck objects: fertility stones for chickens; a boulder with three finned vulvae; phallic stones; and others. There are 18 wood and 4 stone ball neck pendants (*tahonga*); several old stone busts, heads and zoomorphic figures in different styles and materials; and many wooden and stone figures from modern periods; ornaments, shell necklaces, feather skirts and circlets, fiber purses, carpets and hats, and a large quantity of lava figures made in the middle 1950's. Among the interesting modern pieces are diving glasses made of wood and flint glass (collected by Felbermayer in the 1940's.) Moreover, our library has a varied collection of books, articles, documents, a number of *kai kai* figures, and drawings and photographs from Easter Island. We have no *rongo rongo* tablets nor old *moai kavakava*.

For the next number of CLAVA, the scientific magazine of the Museum, we are collecting original contributions about Easter Island archaeology and anthropology. It will be edited in September 1988.



Editor's Note: The Fonck Society Museum has one of the finest off-island collections of Rapa Nui artifacts in the world. It most urgently needs funds for research, preservation and for exhibits. PLEASE HELP! The Museum needs your support.

Readers can become a Cooperating Associate Member (U.S. \$60 annually) and obtain all the various Museum Publications. Also, the Catalog of the Rapa Nui collection is available for U.S. \$10. Checks should be to the order of "Sociedad de Arqueología Dr. Fonck" and sent to Casilla 951, Viña del Mar, Chile.

...Recent Archaeology continued...

cm of cultural deposits that had accumulated. A single European glass trade bead and several very fine examples of bone needles and awls were also recovered. The glass bead also indicated that the cave was occupied after European contact (post 1722 AD) and possibly until around 1850 AD. Obsidian hydration and radiocarbon dating will be used to provide additional chronometric assays for the deposits in order to better define the period of cave construction and use. Even without these determinations, it is clear that the cave deposits represent a very limited period of time and provide an assemblage of food remains possibly for the later period of island prehistory.

The excavation of Easter Island residential sites will con-

tinue again next year. Persons interested in participating on this project should contact Jay Kolin at Earthwatch Expeditions, Watertown, Mass 02172; phone (617) 926-8200.

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Center for South Pacific Studies

A Center for South Pacific Studies at the University of New South Wales, Australia, has been organized to research and distribute information on the peoples and places of the South Pacific. For further details about the Center, contact Dr. Grant McCall, School of Sociology, The University of NSW, Kensington, New South Wales 2033, Australia.

....*Maria de Rapa Nui* cont...

Father David Reddy (who assumed spiritual leadership at the island until his death in 1985) dispelled possible satanic influences by blessing both the hands and the new tools given to the artisans;² they also prayed daily at the *caleta*. Each evening, sermons in the church placed the particular feature of the Virgin that was carved that day into Biblical context; for example, if the eyes of the Madre de Rapa Nui reflect the eyes of God, they must be divine. In truth, the statue's eyes are like those of small wooden figures made to sell to tourists today but originally representing ancient Rapa Nui supernatural beings, including *aku-aku* spirits. Interestingly enough, placement of the hands of the Virgin seems to duplicate those of the ancient *pa'a-pa'a* figures.

Artisans working on the project recall that as they had no time to formulate a new design,³ they followed the model of the stone torsos. During the week's labor, the rest of the community, in traditional Polynesian fashion, was charged with feeding the carvers and their families. People today remember children carrying meals, cooked by their mothers and aunts, to the men at the *caleta*. One carver described the burning of the excess wood after the statue was finished; to questions of why, he answered, "It just had to be done." Today, a modern petroglyph of the *manutara* (sooty tern) on a *poro* (smooth beach cobble) marks the exact spot where Maria, Madre de Rapa Nui, was carved.

Church records at Maipu Cathedral claim that the week's work was an outstanding evangelical event which had appealed to the islander's reverence for the Mother of



Maria de Rapa Nui
Height 174 cm; width 46 cm.
Material: *miro tahiti*, obsidian,
fish vertebrae, *Cypraea*
caputdragonis mollusks.
Drawing by
Reginald Budd, 1984.

God. However, not all of the carvers who participated in 1970 and who were interviewed in 1984 shared this view. Not surprisingly, their reminiscences varied from complete agreement with the Church report to the pragmatic acceptance of the statue's advertising value for Rapa Nui wood carving at a place which many tourists visit: the island's only church. However, one thing is generally accepted. Although no one seems to remember if it rained during the week of 16-23 May in 1970, many recall the communal carving effort which proceeded without formal, written blueprint and which triggered the rash of saints' statues that followed in the past seventeen years.

Since 1970, a special Sunday-after-Easter is dedicated to the Virgin. She is carried in procession, festooned with leis of flowers and shells, to the place of origin; and "Maria de Rapa Nui," the song commissioned in her honor, continues to be a favorite hymn in church.

¹Material for this article comes from a paper, "Contemporary Public Religious Art on Rapa Nui," read at the I Congreso Internacional Isla de Pascua y Polinesia Oriental at Hanga Roa in September 1984.

²Although records at Maipu state that new carving tools were given to the Rapa Nui, those artisans interviewed did not remember receiving them. An adze which sometimes carries the *mana* of a previous owner is the wood carver's traditional tool. One wonders what type of tool would have been brought from the Continent.

³One carver was especially bothered by the project's haste. It showed a great lack of respect to the Virgin, he thought, not only to have to carve her from green wood which would crack (almost diagnostic for the island wood carvings!) but to settle for so ungainly a piece of wood. It was even necessary, he said, to camouflage the awkward proportions of her head and neck by placing thirteen *pure vaka* (cowrie shells bleached to imitate the more highly regarded blond *Cypraea engleri*) above the statue's forehead.

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...What's New continued

BBC Makes Documentary

In November the British Broadcasting Corporation (BBC) filmed a documentary on Rapa Nui. It will be shown in the US next fall in a two-part program on the NOVA Series.

The BBC crew must have thought they landed in Never-Never Land by some awful mistake. Unexpected problems arose. One island family refused to cooperate with the English because Captain Cook had removed artifacts from the island in 1774. Filming was delayed by weather, misunderstandings and other glitches. In order to film the arrival of Hotu Matu'a, two fishing boats were attached end to end, and false prows attached—a most ingenious solution; however, the two boats didn't fit well and the make-shift canoe kept bending in the center.

Rumors spread around the island that some of the footage already taken had accidentally been destroyed and would have to be re-filmed (not true). The islanders began gleefully estimating how much more they could charge the BBC for re-takes.

If past documentaries filmed by the BBC are any indication, we



are looking forward to seeing the finished product. We expect that it will be very professionally produced and lovingly photographed. Watch for it next fall; you are likely to see many familiar scenes as well as a lot of old friends!

Response to Erosion Article

A recent article appeared in La Depeche de Tahiti concerning the geology of Rapa Nui. Titled "Notre Voisine Polynésienne est Lentement Rongée par L'Océan and written by Francois Dederen, it describes the rapid erosion of Easter Island due to the force of wave action on the shore line. For evidence, the article cites the mysterious Ahu Riki Riki (which was taken over the coals in Rapa Nui Notes #4) and Ahu Ohau, which according to Métraux (in 1935) had partially fallen into the sea. A response to the news item has been sent by our Chilean correspondent, Dr. William Liller.

This article raises several interesting questions. First of all, certainly the coastline of Easter Island is being "gnawed away by the ocean." The quoted rate—2 meters per 20 years—which translates to 100 meters per millennium, sounds to me like a reasonable MAXIMUM rate, namely, where there are seaside cliffs of friable material that get the full force of the waves. However, along the north and south coasts where the land more often slopes gently to the sea, erosion ought to be less rapid. Furthermore, these rocky coasts are made of tough, brittle basaltic lava flow material. On the other hand, because in general the world's oceans are slowly rising owing to the melting of the polar caps, these shore lines will gradually slip below sea level. But so will most of the great coastal cities in the world.

The article refers to Métraux's remarks that Ahu Ohau would soon disappear since in 1934 "a gaping fissure had already detached its right wing," and goes on to say that neither Englert nor Heyerdahl could find any trace of it. This needs clarification. Heyerdahl and Smith in the 1961 Norwegian Expedition did indeed report that Ohau "could not be found" and it "had fallen into the sea." But where is (or was) Ohau? On page 214, Smith states, "Ahu Te-Nui (Englert #37) between Ahu Tepeu and the North Cape, has been called Ohau by Thomson and Lavachery." However, Englert's 1948 inventory of ahu says about #37: "Ahu Te Niu [sic], ahu-moai of the incomplete type and very destroyed. It was 85 meters long (with lateral wings)." And in his unpublished 1965-66 survey, William Mulloy writes: "Ahu 37: (Ahu Te Nui) This

is an ahu moai with a long central platform and short lateral wings... This ahu is on edge of high cliff and part of N wing has fallen into sea... Restored would make a very spectacular monument in a very spec. setting." It seems clear that Ohau (a.k.a. Te Niu or Te Nui) was still holding firm 21 years later.

Finally, I am happy to report that in March of this year, during an unsuccessful search for an astronomical petroglyph, my wife Matty and I by chance picnicked with our backs against the seaward wall of the central platform and without fear of falling into the sea. As I recall, the edge of the cliff was a good 8 or 10 meters away.

Liller concludes by adding that Heyerdahl (1961:458), quoting Thomson, states "...an ahu termed Hananakou on the edge of the cliffs next to Ahu Ohau, both of which were subsequently unfortunately lost into the sea." Again, both Englert and Mulloy describe Hanana Kou (E35) in detail, and the latter writes in 1965-66 that it is "in exc. state of preservation," and "Prac. no recon. nec." This ahu also shows up clearly in 1960-61 aerial photographs; it is well back from the cliff edge, approximately 17 meters.

Publications

Books: *La Cultura de la Isla de Pascua*, by Ramon Cambell (1987). Editor Andres Bello, Av. Ricardo Lyon 946, Santiago, Chile. This is a reprint of a book originally published in 1974 as "Misterioso Mundo de Rapanui" in Buenos Aires. The new edition has added information regarding ahu in the interior of the island, additional illustrations (some in color) and references to recent archaeology. In Spanish, 293 pps., paperback. Approximately U.S. \$14. Write to the publisher for details.

Our New Look

Our new, expanded look is thanks to Alan Davis-Drake and his magical Macintosh SE computer and LazerWriter printer. Alan has recently joined *Rapa Nui Notes* as Co-Editor. He is currently heading a project to render digitized computer images of traditional and historic Rapanui art as well as creating a digitized rongorongo database.

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